UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
NGUYEN, THUAN V

ART UNIT	PAPER NUMBER
4145	

NOTIFICATION DATE	DELIVERY MODE
11/13/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>13 April 2006</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-4</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-4</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>13 April 2006</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>04/13/2006, 07/12/2006</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Drawings

1.   Figures 1, 2 and 3 should be designated by a legend such as --Prior Art--

because only that which is old is illustrated. See MPEP § 608.02(g). Corrected

drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action

to avoid abandonment of the application. The replacement sheet(s) should be labeled

"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct

any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office

action. The objection to the drawings will not be held in abeyance.

Claim Objections

2.   Claims 1-4 are objected to because of the following informalities: the word

"characterized" is included, which is not in accordance with standard US practice.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. The claims are generally narrative and indefinite,

failing to conform with current U.S. practice. They appear to be a literal translation into

English from a foreign document and are replete with grammatical and idiomatic errors.

In addition, "V1–VL" needs clarification, and acronyms need to be spelt out.

5.   It should be noted that claims 1-4 recite a method without any physical structure

to perform the method, which could be a 101 statutory problem. The applicant is

suggested to correct this issue in any amendment that follows.

Claim Rejections - 35 USC § 103

6.   Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Robotham (US 2004/0100967 A1) in view of admitted prior art included in the

application.

7.   As per claim 1, Robotham teaches *a method for performing aggregate-portion-*

specific flow shaping in packet-switched telecommunications (Robotham, paragraph

[0001] teaches a method for scheduling aggregation-related data traffic flow), *in which*

method:

- *digital information is transferred as constant or variable-length packets*
  (Robotham, figure 1, shows data coming to the network from a number of users
  (elements 110) running unspecified applications, which generate packets of
  constant or variable length).

- *the packets arrive in the system as at least two separate traffic flows (V1-VL,*
  traffic flow) (Robotham, figure 3A, elements 301A, 301B, 307A, 307B, 307C,
  307D are separate traffic flows arriving at the system).

- *at least one shaping group (k), each of which includes at least one traffic flow*
  (V1-VL) arriving in the system is defined in the system (Robotham, figure 3A,
  elements 301A and 301B form a shaping group which is shaped in scheduler
  302).

- *restrictions (e.g., CIR, PIR, CBS) are set for at least one shaping group (k), which*
  includes at least two traffic flows (V1-VL) arriving in the system (Robotham,
  paragraph [0042], line 12, teaches that rate limiting is performed in a scheduler,
  which handles a shaping group that includes at least two traffic flows as shown in
  figure 3A, element 308A for instance).

Robotham does not teach *the earliest permitted moment, at which a packet in the*
system can be forwarded from the system, is defined as the greatest value of the
VTS values of all the shaping groups (k), to which shaping groups (k) the traffic flow
(V1-VL) represented by the packet belongs; and as a result of the forwarding of the
packet, the VTS values of the same shaping groups (k) are updated, in which the

VTS value of an individual shaping group (k) expresses the earliest permitted

moment, at which a packet belonging under the relevant shaping group (k) can be

forwarded, without breaking the restrictions of the speed properties of the shaping

group (k) being examined. However admitted prior art included in the application

teaches *the earliest permitted moment, at which a packet in the system can be*

forwarded from the system, is defined as the greatest value of the VTS values of all

the shaping groups (k), to which shaping groups (k) the traffic flow (V1-VL)

represented by the packet belongs (Specification, page 2, line 24 states that figure 1

and the subsequent discussion related to figure 1 are prior art. Specification,

equation 3 on page 3, line 17 teaches that if there are more than one VTS values,

each associated with one restriction on the packet flow, then the greatest VTS value

will be selected. Applying the same rule, when there are more than one VTS values,

each associated with one shaping group, then the greatest VTS value will be

selected); *and as a result of the forwarding of the packet, the VTS values of the*

same shaping groups (k) are updated, in which the VTS value of an individual

shaping group (k) expresses the earliest permitted moment, at which a packet

belonging under the relevant shaping group (k) can be forwarded, without breaking

the restrictions of the speed properties of the shaping group (k) being examined

(Specification, page 3, equations 1 and 2 show the parameters VTS_CIR_{next} and

VTS_CIR_{prev}, VTS_PIR_{next} and VTS_PIR_{prev}. The subscripts *prev* and *next* show an

updating process for the parameters VTS_CIR and VTS_PIR from which the VTS for

a packet is selected according to equation 3, which ensures that no speed properties

of the examined entity are broken according to Specification, page 3, line 13).

Thus it would have been obvious to one of ordinary skill in the art at the time the

invention was made to implement *the earliest permitted moment, at which a packet*

in the system can be forwarded from the system, is defined as the greatest value of

the VTS values of all the shaping groups (k), to which shaping groups (k) the traffic

flow (V1-VL) represented by the packet belongs; and as a result of the forwarding of

the packet, the VTS values of the same shaping groups (k) are updated, in which the

VTS value of an individual shaping group (k) expresses the earliest permitted

moment, at which a packet belonging under the relevant shaping group (k) can be

forwarded, without breaking the restrictions of the speed properties of the shaping

group (k) being examined of the admitted prior art into Robotham, since Robotham

teaches shaping aggregation traffic flows by groups (something broad) in general

and the admitted prior art suggests the beneficial use of the maximum VTS to send

a packet when more than one VTS are available as a result of more than one

restrictions on the relevant traffic flow, such as to ensure that all speed properties of

that flow are taken into account (admitted prior art in Specification page 3, lines 13-

17) in the analogous art of data communications.

8.   As per claim 2, Robotham and the admitted prior art teach claim 1. Robotham

also teaches *the traffic flows (V1-VL) contained in at least one shaping group (k) are all*

also included in some second shaping group (hierarchal shaping) (Robotham, figures

3A and 3B show a hierarchal system of shaping groups. For example, in figure 3B,

flows 317A and 317A' belong to the group shaped in 319A, the group shaped in 308A,

and the group shaped in 312).

9.   As per claim 3, Robotham teaches *equipment for performing aggregate-portion-*

specific flow shaping in packet-switched telecommunications (Robotham, paragraph

[0001] teaches a system for scheduling aggregation-related data traffic flow), *in which*

the equipment includes:

- *means for receiving constant or variable-length packets carrying digital*

  information (Robotham, figure 1, shows data coming to the network from a

  number of users (elements 110) running unspecified applications, which

  generate packets of constant or variable length, then received by element 102

  which is an access node).

- *means for classifying a packet arriving in the system as representing one of the*

  traffic flows (V1-VL, traffic flow) arriving in the system (Robotham, figure 3A,

  elements 301A, 301B, 307A, 307B, 307C, 307D are separate traffic flows arriving

  at the system, each packet is classified according to source (C1, C2) and real-

  time/non real-time characteristics).

- *means for defining at least one shaping group (k) in the system, in such a way*

  that each shaping group (k) includes at least one traffic flow (V1-VL) arriving in

the system (Robotham, figure 3A, elements 301A and 301B form a shaping

group which is shaped in scheduler 302).

- *means for setting restrictions (e.g., CIR; PIR, CBS) for the speed properties for*

   each least one such shaping group (k), which includes at least two traffic flows

   (VI-VL) arriving in the system (Robotham, paragraph [0042], line 12, teaches that

   rate limiting is performed in a scheduler, which handles a shaping group that

   includes at least two traffic flows as shown in figure 3A, element 308A for

   instance).

- *means for forwarding packets to an outgoing link or links* (Robotham, figure 3A,

   element 318 shows traffic coming out to a 10Mbps link, which implies an inherent

   means for forwarding packets to that link.)

Robotham does not teach *means, which the aid of which it is possible to define the*

earliest permitted moment, at which a packet in the system can be forwarded, as the

largest value of all the VTS values of the shaping groups (k), to which shaping

groups (k) the traffic flow represented by the packet belongs; and with the aid of

which means it is possible to update the VTS values of the same shaping groups (k)

as a consequence of forwarding the packet, in which the VTS value of an individual

shaping group (k) expresses the earliest permitted moment, at which a packet under

the shaping group (k) in question can be forwarded, without breaking the restrictions

of the speed properties of the shaping group being examined. However admitted

prior art included in the application teaches *means, which the aid of which it is*

possible to define the earliest permitted moment, at which a packet in the system

can be forwarded, as the largest value of all the VTS values of the shaping groups

(k), to which shaping groups (k) the traffic flow represented by the packet belongs

(Specification, page 2, line 24 states that figure 1 and the subsequent discussion

related to figure 1 are prior art. Figure 1 of admitted prior art in the Specification

contains the Shaper (SH) as the means to perform the functions discussed below.

Specification, equation 3 on page 3, line 17 teaches that if there are more than one

VTS values, each associated with one restriction on the packet flow, then the

greatest VTS value will be selected. Applying the same rule, when there are more

than one VTS values, each associated with one shaping group, then the greatest

VTS value will be selected); *and with the aid of which means it is possible to update*

the VTS values of the same shaping groups (k) as a consequence of forwarding the

packet, in which the VTS value of an individual shaping group (k) expresses the

earliest permitted moment, at which a packet under the shaping group (k) in

question can be forwarded, without breaking the restrictions of the speed properties

of the shaping group being examined (Specification, page 3, equations 1 and 2 show

the parameters VTS_CIR_{next} and VTS_CIR_{prev}, VTS_PIR_{next} and VTS_PIR_{prev}. The

subscripts **prev** and **next** show an updating process for the parameters VTS_CIR

and VTS_PIR from which the VTS for a packet is selected according to equation 3,

which ensures that no speed properties of the examined entity are broken according

to Specification, page 3, line 13).

Thus it would have been obvious to one of ordinary skill in the art at the time the

invention was made to implement *means, which the aid of which it is possible to*

define the earliest permitted moment, at which a packet in the system can be

forwarded, as the largest value of all the VTS values of the shaping groups (k), to

which shaping groups (k) the traffic flow represented by the packet belongs; and with

the aid of which means it is possible to update the VTS values of the same shaping

groups (k) as a consequence of forwarding the packet, in which the VTS value of an

individual shaping group (k) expresses the earliest permitted moment, at which a

packet under the shaping group (k) in question can be forwarded, without breaking

the restrictions of the speed properties of the shaping group being examined of the

admitted prior art into Robotham, since Robotham teaches shaping aggregation

traffic flows by groups (something broad) in general and the admitted prior art

suggests the beneficial use of the maximum VTS to send a packet when more than

one VTS are available as a result of more than one restrictions on the relevant traffic

flow, such as to ensure that all speed properties of that flow are taken into account

(admitted prior art in Specification page 3, lines 13-17) in the analogous art of data

communications.

10.   As per claim 4, Robotham and the admitted prior art teach claim 3. Robotham

also teaches *the equipment includes means, with the aid of which it is possible to define*

all the traffic flows (V1-VL) contained in at least one shaping group (k) as belonging to

some second shaping group (hierarchal shaping) (Robotham, figures 3A and 3B show a

hierarchal system of shaping groups. For example, in figure 3B, flows 317A and 317A'

belong to the group shaped in 319A, the group shaped in 308A, and the group shaped

in 312).

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure: *Patel et al. Method and system for queuing traffic in a wireless*

communications network. Patent No. US 6,865,185 B1.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to THUAN NGUYEN whose telephone number is

(571)270-7189. The examiner can normally be reached on 7:30 AM to 5:00 PM,

Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Pankaj Kumar can be reached on 571-272-3011. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

T.N.

/Robert W Wilson/

Primary Examiner, Art Unit 2419